

NOTE ON THE UPPER INCISOR OF *PHASCOLONUS*.

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(Plate 1.)

A lately acquired remnant of the upper jaw of a *Phascolonus gigas* throws a welcome light on the nature of its incisor. The fragment consists of the left premaxillary with a portion of the nasal, and so much of the maxillary as includes the anterior wall of the alveolus of the premolar. This socket has been occupied by a curved columnar prismatic tooth, angular in front, such as is exemplified by a loose premolar of *Phascolonus* now in evidence, and such as is required to fill an empty socket in another specimen. On these grounds alone, apart from others to be adduced hereafter, the derivation of the fossil from *Phascolonus* may be confidently affirmed. Included in it is the greater part of an incisor. At its outlet, where its free portion has been broken away, its section is an oval, constricted in the middle of its length, 42 mm. in its vertical and 22 mm. in its transverse diameter; measurements which indicate an unexpected robustness of form. The lateral constriction, increasing as it recedes, forms on the exposed surface of the inner side of the tooth a broad deep groove, which, with a similar channel on the opposite side, partially divides the fang into two unequal columns, the lower of them being the larger. The end of this lower one is broken away; the smaller and upper column rapidly contracts with a striated and puckered surface to the edge of a funnel-shaped cavity, at the bottom of which is a loop-shaped adit into the interior of the column. The ends of the two columns were at some distance apart and not in the same vertical line.

It has for some time been suspected by the writer that the *Phascolonus* incisor would prove to end in this manner; it was an opinion based on certain features in the alveoli of a maxillary

from which all the teeth have been lost. This is broken in such a way as to expose the ends of the sockets of the premolar and first true molar. Just above and behind the apex of the molar alveolus there is a deep round cavity which does not form part of that alveolus, and, similarly situated in relation to the premolar socket, is a smaller cavity of the same kind more distant from the axis of the skull and on a lower level than the other and separated from it by a septum of bone. These two cavities have evidently received ends of the fang of an incisor similar to the ends exposed in the fossil premaxillary. As the shape and size of the alveoli in this specimen prove it to have belonged to the skull of *Phascolonus* we have in it a confirmation of the validity of the reference of the incisor to that genus.

Among a number of large teeth which have at various times been set aside as incapable of recognition is a nearly entire right incisor, smaller than, but in all essential points agreeing with, that of the present fossil, the chief differences being that its lateral grooves are narrower, the columns formed by them less unequal in size, and their extreme ends apparently not so far separated from each other, but the last particular is uncertain, as the part is much mutilated. The anterior portion of this tooth tapers slowly from the outlet forwards; the lateral grooves are continued to the cutting edges; the enamel investment of the upper surface extends over the inner but not over the outer groove, consequently the inner edge of the surface of wear is the longer, and it formed with that of the contiguous tooth a sharp longitudinal ridge from which the abraded surface of dentine slopes outward and upward to the outer angle of the enamelled edge. The worn surface of the tooth is undulatory and 37.5 mm. in length. The whole tooth is 145 mm. long; at its thickest part near the centre its diameters are 31.5 and 26.5. It has a moderate curve in its whole length and is more curved on its upper than on its lower surface.

The discovery of this tooth must set aside all speculation as to the identity of *Sceparnodon* with *Phascolonus*.

The premaxillary fossil is from Cambooya, the maxillary from Chinchilla, both localities on the Darling Downs.